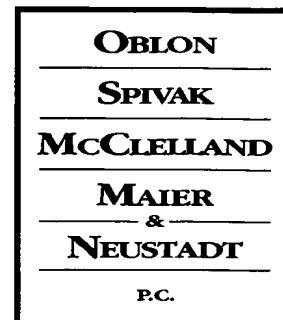




Docket No.: 215899US90PCT

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313



ATTORNEYS AT LAW

MASAYASU MORI  
(703) 413-3000  
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\*BAR OTHER THAN VIRGINIA

RE: Application Serial No.: 09/926,499  
Applicants: Yasuji HIRAMATSU, et al.  
Filing Date: March 26, 2002  
For: CERAMIC SUBSTRATE  
Group Art Unit: 1772  
Examiner: Jane J. Rhee

SIR:

Attached hereto for filing are the following papers:

**REQUEST FOR WITHDRAWAL OF HOLDING OF ABANDONMENT  
COPIES OF DATE-STAMPED FILING RECEIPT (DATED AUGUST 17, 2004), PTO COVER  
LETTER, REQUEST FOR RECONSIDERATION, IDS TRANSMITTAL, PTO-1449 (1),  
IDS/RELATED/LIST OF RELATED CASES, REQUEST FOR EXTENSION OF TIME (3  
MONTHS)**

Our check in the amount of \$0.00 is attached covering any required fees. In the event any variance exists between the amount enclosed and the Patent Office charges for filing the above-noted documents, including any fees required under 37 C.F.R. 1.136 for any necessary Extension of Time to make the filing of the attached documents timely, please charge or credit the difference to our Deposit Account No. 15-0030. Further, if these papers are not considered timely filed, then a petition is hereby made under 37 C.F.R. 1.136 for the necessary extension of time. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.

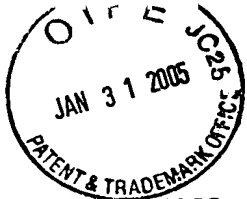
Masayasu Mori

Registration No. 47,301

Customer Number

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(703) 413-3000 (phone)  
(703) 413-2220 (fax)



DOCKET NO: 215899US90PCT

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :  
YASUJI HIRAMATSU ET AL. : EXAMINER: JANE J. RHEE  
SERIAL NO: 09/926,499 :  
FILED: MARCH 26, 2002 : GROUP ART UNIT: 1772  
FOR: CERAMIC SUBSTRATE :

REQUEST FOR WITHDRAWAL OF HOLDING OF ABANDONMENT

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

In response to the Notice of Abandonment dated November 30, 2004, the Applicants advise that a timely response to the Office Action dated February 17, 2004 was filed on August 17, 2004, along with a Request for Extension of Time (3 Months). The Applicants have attached copies of the papers filed, as well as a copy of the date-stamped filing receipt, evidencing filing thereof.

It is believed that the above discussion and documents enclosed herewith clearly prove that the timely response to the Office Action was filed and that the holding of abandonment is an error.

Application No. 09/926,499

Response to Notice of Abandonment dated November 30, 2004

Accordingly, it is requested the holding of abandonment be withdrawn and that prosecution be allowed to continue in the present application.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.



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Masayasu Mori  
Attorney of Record  
Registration No. 47,301

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(OSMMN 08/03)

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Dept.: E/M

OSM&N File No. 215899US90PCT

By: GJM/PJCS/NPS/mai

Serial No. 09/926,499

In the matter of the Application of: Yasuji HIRAMATSU, et al.

For: CERAMIC SUBSTRATE

**Due Date: August 17, 2004**

The following has been received in the U.S. Patent Office on the date stamped hereon:

- Credit Card Form for \$1,130.00
- Dep. Acct. Order Form
- PTO Cover Letter
- Request for Reconsideration
- Information Disclosure Statement
- PTO-1449 (1 Page)
- Cited References (16)
- IDS/Related/List of Related Cases
- Cited Pending Applications/Patents (60)
- Request for Extension of Time (3 Months)



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(b)



Docket No.: 215899US90PCT

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

RE: Application Serial No.: 09/926,499  
Applicants: Yasuji HIRAMATSU, et al.  
RCE Filing November 17, 2003  
Date:  
For: CERAMIC SUBSTRATE  
Group Art Unit: 1772  
Examiner: Jane J. Rhee

SIR:

Attached hereto for filing are the following papers:

**REQUEST FOR RECONSIDERATION  
IDS TRANSMITTAL, PTO-1449 (1), CITED REFERENCES (16)  
IDS/RELATED/LIST OF RELATED CASES,  
CITED PENDING APPLICATIONS/PATENTS (60)  
REQUEST FOR EXTENSION OF TIME (3 MONTHS)**

Our credit card payment form in the amount of \$1,130.00 is attached covering any required fees. In the event any variance exists between the amount enclosed and the Patent Office charges for filing the above-noted documents, including any fees required under 37 C.F.R. 1.136 for any necessary Extension of Time to make the filing of the attached documents timely, please charge or credit the difference to our Deposit Account No. 15-0030. Further, if these papers are not considered timely filed, then a petition is hereby made under 37 C.F.R. 1.136 for the necessary extension of time. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.

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Gregory J. Maier  
Registration No. 25,599

Philippe J.C. Signore  
Registration No. 43,922

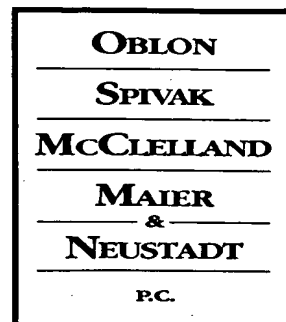
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Docket No. 215899US90PCT



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Yasuji HIRAMATSU, et al.

SERIAL NO: 09/926,499

GAU: 1772

RCE FILED: November 17, 2003

EXAMINER: Jane J. Rhee

FOR: CERAMIC SUBSTRATE

**REQUEST FOR EXTENSION OF TIME  
UNDER 37 C.F.R. 1.136**

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

It is hereby requested that a **three month** extension of time be granted to August 17, 2004 for

- ☒ filing a response to the Official Action dated: February 17, 2004
- ☐ responding to the requirements in the Notice of Allowability dated:
- ☐ filing the Formal Drawings. The Issue Fee due has been timely filed.
- ☐ responding to the Notice to File Missing Parts of Application dated:
- ☐ filing a Notice of Appeal. A timely response to the final rejection, due has been filed.
- ☐ filing an Appeal Brief. A Notice of Appeal was filed on:
- ☐ Applicant claims small entity status. See 37 CFR 1.27. Therefore, the fee amount shown below is reduced by one-half.

The required fee of \$950.00 is enclosed herewith by credit card payment and any further charges may be made against the Attorney of Record's Deposit Account No. 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully Submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.

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Gregor J. Maier

Registration No. 25,599

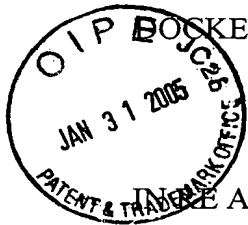
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Philippe J.C. Signore

Registration No. 43,922



BUCKET NO: 215899US90PCT

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF

YASUJI HIRAMATSU, ET AL.

:

: EXAMINER: JANE J. RHEE

SERIAL NO: 09/926,499

:

RCE FILED: NOVEMBER 17, 2003

:

: GROUP ART UNIT: 1772

FOR: CERAMIC SUBSTRATE

:

REQUEST FOR RECONSIDERATION

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

In response to the Office Action dated February 17, 2004, favorable reconsideration of this application, in view of the following comments, is respectfully requested.

Remarks/Arguments begin on page 2 of this paper.

### REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 2, 3 and 5-10 are presently active in this case.

In the outstanding Office Action, Claims 2-3 and 5-10 were rejected under 35 U.S.C. § 102(e) as anticipated by Ohashi et al. (U.S. Patent No. 6,261,708, herein referred as "Ohashi").

First, Applicants wish to thank the Examiner Rhee for the courtesy of an interview granted to Applicants' representatives on July 16, 2004, at which time the outstanding issues in this case were discussed. Specifically, during the interview Applicants' representatives presented comments as to how the claims differed from the applied art; namely that the applied art to Ohashi did not disclose a substrate with the claimed "leakage quantity," but only disclosed a leakage quantity at a joined portion with a substrate, not of the substrate itself. The Examiner indicated she would further consider such comments when submitted in a filed response.

Briefly recapitulating, the claimed invention relates to a ceramic substrate used mainly in the semiconductor industry, being excellent in temperature rising/falling property in the case of application to a heater.<sup>1</sup> The present applicants recognized that problems of deterioration of temperature rising/falling property can be solved by adjusting the degree of the sintering of a substrate to lower the leakage quantity to  $10^{-7}$  Pa · m<sup>3</sup> or less.<sup>2</sup>

Turning now to the applied prior art, the Ohashi patent discloses a method for joining substrates of a simple shape made of aluminum nitride ceramics<sup>3</sup> to obtain a part or an

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<sup>1</sup> See in Applicants' specification on page 1, lines 5-12.

<sup>2</sup> See in Applicants' specification on page 2, lines 13-21.

<sup>3</sup> See Ohashi in the Abstract.



element of a complicated shape.<sup>4</sup> However, Ohashi fails to teach a ceramic heater comprising an aluminum nitride ceramic substrate having a leakage quantity of  $1 \times 10^{-10}$  to  $1 \times 10^{-7}$  Pa · m<sup>3</sup>/sec, as recited in the claims. On the contrary, Ohashi explicitly teaches a method of joining substrates made of aluminum nitride series ceramics to each other,<sup>5</sup> and which provides a strong joining.<sup>6</sup> Ohashi further states that “disc shaped substrates of a diameter  $\phi$  of 50 mm x a thickness of 15 mm were joined to cylindrical shaped substrates of an outer diameter of 36 mm, an inner diameter of 28 mm,”<sup>7</sup> and then states that the “thus obtained joined bodies were subjected to a He leakage test.”<sup>8</sup> The obtained joined body subjected to a leakage test, as recited in Ohashi, is not only a ceramic substrate.

That is, Applicants submit that in Ohashi the noted “leakage property” is directed to that of the joined body portion, and is not a leakage quantity of only the substrate itself. In contrast to Ohashi, in the claims as currently written, the “leakage quantity” is directed to that of the substrate itself, and not to a joined portion between a substrate and a support.

The leakage quantity of the ceramic substrate itself is measured as follows:<sup>9</sup> The ceramic substrate which has a diameter of 30mm, an area of 706.5mm<sup>2</sup> and a thickness of 1mm is prepared and put into the helium leakage detector. The leakage quantity of the ceramic substrate then measured by measuring a flow amount of helium passing through the ceramic substrate. The helium leakage detector measures the partial pressure of helium at the time of the leakage, but does not measure the absolute value of the gas flow amount. The partial pressure values of Helium of known leakage quantities are measured in advance, and based on the detected partial pressure of Helium at the time of unknown leakage, the leakage

<sup>4</sup> See Ohashi at column 1, lines 44-48.

<sup>5</sup> See Ohashi at column 2, lines 28-33.

<sup>6</sup> See Ohashi at column 2, lines 35-36.

<sup>7</sup> See Ohashi at column 10, lines 51-54.

<sup>8</sup> See Ohashi at column 10, lines 55-56.

<sup>9</sup> See our applicants' specification for example on page 5, lines 2-18.

quantity is calculated by a simple proportional calculation. More details on this measurement principle of the helium leakage detector is described in the enclosed article: Semiconductor World, November 1992, pages 112 to 115.

Therefore, Ohashi fails to teach or suggest every feature recited in claims 2-3 and 5-10, so that Claims 2-3 and 5-10 are patentably distinct over Ohashi. Accordingly, Applicants respectfully traverse, and request reconsideration of, the rejections based on Ohashi.<sup>10</sup>

Consequently, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 2-3 and 5-10 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.

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(OSMMN 06/04)

GJM/PJCS/NPS/maj

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Gregory J. Maier  
Attorney of Record  
Registration No. 25,599

Philippe Signore  
Registration No. 43,22

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<sup>10</sup> See MPEP 2131: "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference," (Citations omitted) (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art."